Appl. No. 10/590,440 In re ARHAB et al.

Reply to Final Office Action of Jan. 29, 2009

## Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

## **Listing of Claims:**

Claim 1 (currently amended): A Hydrokinetic coupling apparatus (10), especially for a motor vehicle, comprising:

- a casing (12) including a rear shell (20) adapted to be coupled in rotation to a driving shaft (B), an impulse wheel (30), and a front shell (18);
- a turbine wheel (32) arranged for rotation with a turbine hub (40) adapted to be coupled in rotation to a driven shaft (A);
- a lock-up clutch (16) for coupling the driving shaft and the driven shaft together, the lock-up clutch (16) being operatively interposed between the turbine wheel (32) and the rear shell (20) and comprising a piston (48) movable axially for releasably coupling together the rear shell (20) and the driven shaft (A), and which includes a damping device (50),

the damping device (50) comprising at least one guide ring (72) constituting the input element, a damper plate (74) constituting the output element, and circumferentially acting elastic members (76) interposed between the input element (72) and the output element (74) coupled together in rotation but with the ability to perform predetermined circumferential displacement,

the turbine wheel (32), the turbine hub (40) and the damper plate (74) of the damping device (50) being non-rotatably coupled by means of rigid joints,

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the damper plate (74) comprising at its inner radial end a flange portion (86) axially extending toward the turbine wheel (32) and non-rotatably coupled, by friction welding, respectively:

- at the front, to the turbine wheel (32) by means of a first welded joint (88) formed between an annular front contact face (90) of the flange portion (86) and a rear weld face (92) in facing relationship with the inner radial periphery of the turbine wheel (32), and

- at the rear, to the turbine hub (40) through a rear second welded joint (96) formed between an annular rear contact face (98) of the flange portion (86) and a front weld face (100) in facing relationship with the outer radial periphery of the turbine hub (40);

the first welded joint (88) between the annular front transverse contact face (90) of the flange portion (86) and the transverse rear weld face (92) of the turbine wheel (32) comprising an outer front weld band (102) and an inner front weld band (104), the flange portion (86) of the damper plate (74) extending axially over a predetermined length such as to permit access to the outer weld band (102) and inner weld band (104), respectively, of the first welded joint (88) for performing visual control and/or cleaning of the bands (102, 104).

Claim 2 (previously presented): The Apparatus according to Claim 1, wherein the mean diameters of the annular contact faces, namely the front contact face (90) and rear contact face (98), of the flange portion (86) are substantially equal to each other.

Claim 3 (canceled)

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Claim 4 (currently amended): <u>A Hydrokinetic coupling apparatus (10)</u>, especially for a motor vehicle The Apparatus according to Claim 1, comprising:

- a casing (12) including a rear shell (20) adapted to be coupled in rotation to a driving shaft (B), an impulse wheel (30), and a front shell (18);

- a turbine wheel (32) arranged for rotation with a turbine hub (40) adapted to be coupled in rotation to a driven shaft (A);

- a lock-up clutch (16) for coupling the driving shaft and the driven shaft together, the lock-up clutch (16) being operatively interposed between the turbine wheel (32) and the rear shell (20) and comprising a piston (48) movable axially for releasably coupling together the rear shell (20) and the driven shaft (A), and which includes a damping device (50),

the damping device (50) comprising at least one guide ring (72) constituting the input element, a damper plate (74) constituting the output element, and circumferentially acting elastic members (76) interposed between the input element (72) and the output element (74) coupled together in rotation but with the ability to perform predetermined circumferential displacement,

the turbine wheel (32), the turbine hub (40) and the damper plate (74) of the damping device (50) being non-rotatably coupled by means of rigid joints,

the damper plate (74) comprising at its inner radial end a flange portion (86) axially extending toward the turbine wheel (32) and non-rotatably coupled, by friction welding, respectively:

- at the front, to the turbine wheel (32) by means of a first welded joint (88) formed

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between an annular front contact face (90) of the flange portion (86) and a rear weld face (92) in facing relationship with the inner radial periphery of the turbine wheel (32), and

- at the rear, to the turbine hub (40) through a rear second welded joint (96) formed between an annular rear contact face (98) of the flange portion (86) and a front weld face (100) in facing relationship with the outer radial periphery of the turbine hub (40);

wherein the second welded joint (96) between the annular rear transverse contact face (98) of the flange portion (86) and the front transverse weld face (100) of the turbine hub (40) eemprises comprising a rear outer weld band (106) and a rear inner weld band (108).

Claim 5 (currently amended): The Apparatus according to Claim [[3]] 1, wherein the mean diameters of the front inner weld band (104) and rear inner weld band (108) of the first and second welded joints (88, 96) are substantially equal to each other.

Claim 6 (previously presented): The Apparatus according to Claim 5, wherein the mean diameters of the front inner weld band (104) and the rear inner weld band (108) of the first and second welded joints (88, 96) are substantially equal to the internal diameter of the flange portion (86).

Claim 7 (previously presented): The Apparatus according to Claim 1, wherein the turbine hub (40) includes a radial plate portion (52), the outer radial periphery of which includes an annular boss (110) which extends axially forward and which carries the front weld

Appl. No. 10/590,440 In re ARHAB et al. Reply to Final Office Action of Jan. 29, 2009 face (100) of the turbine hub (40).

Claim 8 (previously presented): The Apparatus according to Claim 4, wherein the turbine hub (40) includes a radial plate portion (52), the outer radial periphery of which includes an annular boss (110) which extends axially forward and which carries the front weld face (100) of the turbine hub (40), and wherein the mean diameter of the rear outer weld band (106) is substantially equal to the greatest external diameter of the radial plate portion (52) of the turbine hub (40).

Claim 9 (previously presented): The Apparatus according to Claim 1, wherein the flange portion (86) of the damper plate (74) is press-formed.

Claim 10 (canceled)

Claim 11 (previously presented): The Apparatus according to Claim 2, wherein the second welded joint (96), between the annular rear transverse contact face (98) of the flange portion (86) and the front transverse weld face (100) of the turbine hub (40), comprises a rear outer weld band (106) and a rear inner weld band (108).

Claim 12 (previously presented): The Apparatus according to Claim [[3]] 1, wherein the second welded joint (96), between the annular rear transverse contact face (98) of the

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flange portion (86) and the front transverse weld face (100) of the turbine hub (40), comprises a rear outer weld band (106) and a rear inner weld band (108).

Claim 13 (previously presented): The Apparatus according to Claim 4, wherein the mean diameters of the front inner weld band (104) and rear inner weld band (108) of the first and second welded joints (88, 96) are substantially equal to each other.

Claim 14 (previously presented): The Apparatus according to Claim 1, wherein the piston (48) is mounted on an annular sliding surface (56) of the turbine hub (40) for axial sliding movement relative thereto.